

CUSTOMISABLE REFERENCE DESIGN DATASHEET

Target form factors: Hybrid Terrestrial, Cable & Satellite CPE, PVR, Home Multimedia Gateways



BROADCAST & INTERNET RECEIVER

WITH SECURE MULTIROOM MEDIA DISTRIBUTION

Powered by



OREO BCM 7000 Series

Simplicity, economy and performance

Oreo is a Pay TV foundation platform for network operators, who wish to design and deploy advanced hybrid IP and broadcast systems, incorporating the latest industry standards and use cases. Oreo delivers the blend of software intelligence and chipset performance for secure access, recording and multiroom distribution of high definition IPTV, terrestrial, cable and satellite programming. This modular Set Top Box reference design is a versatile low-cost turnkey platform that delivers high performance and a comprehensive set of codecs and connectivity options.

KEY FEATURES

- High Definition MPEG 4 (AVC / H.264 / WMV9 / VC1 / DivX / XviD) video decode
- Standard Definition Sorenson Spark / ON2 decode
- Mosaic and PIP video decode modes
- OpenGL ES 1.0 Based 3D Graphics*: spins, warp, flips, etc
- Unified Graphical User Interface engine and run time environment, incorporating CEA - 2014, AJAX, Adobe Flash / vector graphics rendering capabilities
- Native and remote EPG options
- Secure multi-room media link to PCs, WiFi mobile handsets, digital cameras and NAS devices
- Premium and user-generated web downloads and streaming
- Multiple UI "skins" and theme personalization engine

EMBEDDED CLIENT SOFTWARE OREGAN™ MEDIA BROWSER

Oregan™ Media Browser 4.0 is the powerful and intelligent multimedia delivery engine inside Oreo. Its modular architecture incorporates enabling software modules including a **TV browser**, **IPTV video streaming client** and **home media player and server**.

Oregan TV Browser provides the user interface for value-add applications, Internet video and open access web browsing.

Oregan IPTV Client enables multicast and unicast distribution of multimedia over IP.

Oregan DLNA Player and Server module enables interoperable and secure sharing and re-distribution of media over IP networks.

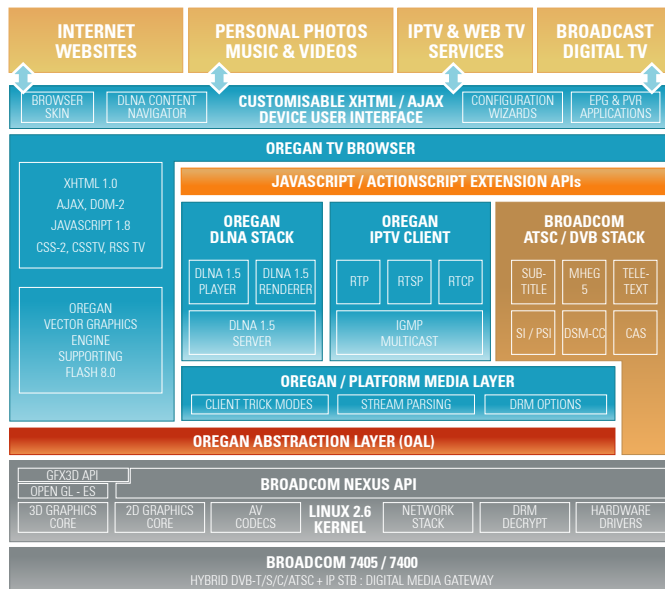
The scalable design of the solution enables service providers to plug in additional applications and offer multiple network multimedia streaming and sharing capabilities in a single device.

PERFORMANCE

- 400 MHz dual-core CMT MIPS32®/16e class processor
- Dual HD video decoder*
- JPEG hardware acceleration
- 64-bit DDR2 DRAM controller
- 256 MB DRAM (512 MB option)
- 32 MB NOR flash memory (64 MB option)
- HDD storage*
- 32-bit OSD with 2D graphics acceleration
- Linux 2.6 kernel

CONTENT PROTECTION

- Microsoft Janus / Cardea DRM, DTCP-IP
- Multiple CAS support
- Macrovision, CGMS, CSS



*Available in select versions – see table

Figure 1. Oregan Media Browser Architecture

DETAILED SPECIFICATIONS

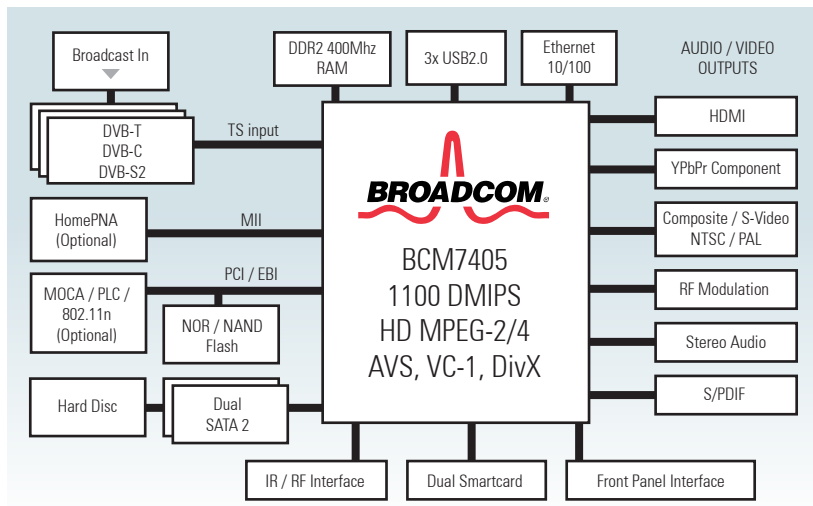


Figure 2. Scalable Hardware Design for Low-cost Hybrid Set Top Box with HDD

HARDWARE

- CHIPSET: Broadcom 7405 / 7400

CONNECTIVITY

- Digital TV: DVB terrestrial, DSL / IP, compliant with ATSC, SMPTE VC-1, UPnP / DLNA standards compliance
- Network / Peripherals: 100bT Ethernet controller, WiFi 802.11g,n / Bluetooth / MOCA / PLC / Home PNA, USB 2.0, 2 x SATA interfaces, 2 x PCI peripherals

VIDEO / GRAPHICS

- Picture in picture support
- Dual MPEG-2MP@HL decode*
- Formats: MPEG-1, MPEG-2, MPEG4 (SP and ASP), DivX, XviD, MPEG-4 AVC / H.264, WMV-9, VC-1
- Images: JPEG, TIFF, BMP, PNG, GIF
- Output: HDMI, SCART, S-Video, Component (YPbPr), Composite

AUDIO

- Formats: WMA 9, WMA 9 Pro, MPEG-1 layer I/II, MPEG-2 layer II, MPEG-2 AAC, MPEG-4 AAC LC 2 & 5.1 channel, MPEG-4 AAC+SBP 2 & 5.1 channel, Dolby® Digital EX, Pro Logic® II, MLP™
- Output: Optical (Toslink), Electrical SPDIF

HARDWARE VARIANTS

CHIPSET	HD DECODE	PERFORMANCE	3D GRAPHICS
BCM 7405	x 1,25	400 MHz / 1100+ DMIPS	No
BCM 7400	x 2	400 MHz / 1100+ DMIPS	Yes

CUSTOMISATION & SYSTEM INTEGRATION ENVIRONMENT

Oregan's Oreo SDK allows manufacturers and system developers to easily integrate the vital parts of the client-side content delivery system. DRM and CAS technologies can be easily "plugged in" within the architecture, as required by a specific operator or Set Top Box vendor.

The SDK provides the following facilities:

- Adaptation of low level hardware drivers
- Customisation of User Interface logic and branding
- System Integration via JavaScript APIs with customer-specified DVB, PVR, DRM and head-end technology solutions
- Remote upgrade facility

OREGAN MEDIA BROWSER SOFTWARE

HARDWARE RESOURCE REQUIREMENTS:

- Embedded code footprint: approx. 5 MB, excluding High Definition Graphical User Interface
- Execution memory usage: approx. 20 - 30 MB DRAM, including application space for rendering of typical online content portals

TV BROWSER & UI ENGINE

- XHTML 1.0, HTML 4.01, JavaScript 1.8, DOM 2, CSS - 2, CSS - TV, Adobe® Flash® 8.0 compatibility, SSL 3.0, CEA - 2014

INTERNATIONAL LANGUAGE SUPPORT

Input and display technology for US and European languages, Chinese, Japanese, Korean, Thai and Arabic.

UNIFIED MEDIA ACCESS FRAMEWORK

Unified user interface and media player for network-based, local and USB mass storage media, including digital cameras, MP3 Players, portable hard drives and flash memory cards.

APPLICATIONS

AJAX / XHTML / Adobe® Flash® Electronic Programming Guide (EPG), video search / recommendation engines, web-based multi-player arcade gaming & karaoke, YouTube / Skype / MySpace / Google Maps

IPTV CLIENT FEATURES

- RTP & RTSP client for video stream control and trick modes (PAUSE / REW / FF)
- MS-HTTP, MS-RTP and MS-RTSP
- Multicast IGMP support
- Telco grade VOD server support includes Edgeware Reflex 2x, Microsoft Windows Media Server

DLNA PLAYER & SERVER

- Applicable device classes: Digital Media Player (DMP), Digital Media Renderer (DMR) and Digital Media Server (DMS)
- Home network connectivity: WiFi with WEP / WPA support*, Powerline networking*

PLAYLISTS AND SLIDESHOWS

- M3U, ASX, PLS and WAX playlist formats
- Customisable screensaver
- User controlled photo slideshows with audio
- Photo zoom, rotation, pan and scan

*optional specifications

Email info@oregan.net to discuss your project requirements
Detailed information is available at www.oregan.net

Oregan Networks Ltd - Head Office

Tawan Office

US Office

The White Building, 52-54 Glenthams Road, London SW13 9JJ, UK, Tel: +44 (0)20 8846 0990, Fax: +44 (0)20 8846 0999, Email: info@oregan.net

P.O. BOX 10204, Sindian, Taipei County 23199, Taiwan (R.O.C.), Tel: + 886 963 112 518, Email: taiwan@oregan.net

880 Zanker Road, Suite 203, San Jose, CA 95134, Tel: +1 408 416 3200, Email: americas@oregan.net